

REMARKS

This application has been carefully reviewed in light of the Office Action dated August 20, 2004. Claims 49 to 87 are in the application, of which Claims 49, 54, 68, 81, 82 and 84 are independent. Reconsideration and further examination are respectfully requested.

Turning first to a formal matter, it is respectfully requested for the Examiner to indicate his consideration of the information cited in the Information Disclosure Statement dated September 24, 2004.

Turning to the merits of the Office Action, Claims 49 to 53, 82 and 83 were rejected under 35 U.S.C. § 102(e) over U.S. Patent 6,176,908 (Bauer), and Claim 84 was rejected under § 102(e) over U.S. Patent 5,681,381 (Auslander). In addition, Claims 54 to 81 were rejected under § 103(a) over U.S. Patent 5,485,188 (Tochihara) in view of Bauer. Reconsideration and withdrawal of these rejections are respectfully requested.

The invention concerns use of an ink that shows fluorescent intensity by ultraviolet light, such as in an ink jet recording process, or such as use in an ink container or an ink cartridge for use in a recording unit. According to the invention, the ink shows fluorescent intensity when irradiated with ultraviolet light, and uses compounds or coloring materials that exhibit fluorescent properties. The ink further includes first and second organic compounds that are incompatible with each other, as well as a liquid medium for dispersing the first and second compounds as well as the compound or coloring material.

By virtue of the foregoing arrangement, use of the ink as claimed shows a noticeable fixing condition when fixed to a recording medium, which enables the ink to obtain a remarkably improved fluorescent intensity and colorfulness property, often leading to an enhancement or elongation of the lifetime of fluorescence (see Claims 82 and 84).

This can be seen clearly from the results of examples and comparative examples described in the specification. The Applicants herein believe that the high fluorescence is obtained for the reasons described beginning at page 16 of the application.

By contrast, although it is true that both Bauer and Auslander discuss inks containing fluorescent dye excited with ultraviolet light, it is equally true that neither describes the ink composition of the present invention, particularly the inclusion of two compounds which are incompatible with each other. With respect to the rejection over Bauer, the Office Action took the position that Bauer's surfactants (mentioned at lines 1 to 10 of column 4 thereof) corresponds to the claimed "second organic compound" which is incompatible with first; and with respect to the rejection over Auslander, took the position that the surfactant mentioned at lines 35 to 50 of column 7 likewise corresponded to the second organic compound. However, the use of surfactants is to control surface tension, viscosity, and dispersion (as mentioned by Bauer) or to dissolve toners (as mentioned by Auslander) and therefore does not contribute to the composition of the ink as claimed herein and could not possibly suggest the above-mentioned mechanism or remarkable meritorious effect of the present invention.

Tochihara has been reviewed, and it is true that it mentions a variety of compounds usable for coloring material or solvent, and describes fluorescent dyes and glycerol. However, Tochihara indiscriminately uses fluorescent and non-fluorescent dyes, and hence does not develop the concept of obtaining a high fluorescence intensity. As a matter of course, therefore, all of the inks according to Tochihara are intended to be used under visible lights, such that Tochihara does not disclose or suggest use of an ink that obtains a fluorescence intensity due to excitation by ultraviolet light.

It is therefore respectfully submitted that the rejected claims are neither anticipated by, nor would have been obvious from, any permissible combination of the applied art.

The indication of allowable subject matter in Claims 65 to 67 and 78 to 80 is acknowledged with appreciation. However, as discussed above, it is believed that the independent claims from which these claims depend are also in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Costa Mesa office by telephone at (714) 540-8700. All correspondence should continue to be directed to our address given below.

Respectfully submitted,


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